

WHAT IS CLAIMED IS:

1. A method of providing an extended group call service in a radio network, comprising the steps of:
 - 5 (a) generating extended group call service information including information about base stations (BSs) that cover a neighboring group call area (NGCA) and broadcasting by a BS that does not cover a group call area (GCA) but is located in a radio network near to the GCA the extended group call service information;
 - (b) selecting a BS in the best service condition among BSs set in the extended
10 group call service information as a BS from which an extended group call service is to be received by a mobile station (MS) that is configured to receive the extended group call service information;
 - (c) receiving by the MS group call paging information from the BS;
 - (d) analyzing by the MS the group call paging information and determining if
15 the group call service is available from the BS; and
 - (e) registering by the MS and connecting to the selected BS if the group call service is available from the BS and receiving the group call from the BS .
2. The method of claim 1, wherein in step (a), the BS generates the
20 extended group call service information including the identifications (IDs) of the BSs (NGCA BSs) covering the NGCA, the frequency information of the NGCA BSs, and the group call IDs of the NGCA BSs.
3. The method of claim 1, wherein in step (c), the MS receives the group
25 call paging information on a notification channel (NCH).
4. The method of claim 1, wherein in step (c), if the MS fails to receive the group call paging information from the BS, the MS re-selects a BS from which to receive the extended group call service and receives group call paging information
30 from the re-selected BS.

5. The method of claim 1, wherein in step (c), if the MS fails to receive the group call paging information from the BS, the MS repeats reception of next group call paging information from the BS a predetermined number of times, and if the MS
5 fails to receive for at least the predetermined number of times the group call paging information from the BS, the MS re-selects a BS from which to receive the extended group call service and receives group call paging information from the re-selected BS.

6. The method of claim 1, wherein in step (e), the MS changes location
10 registration to the BS and receives a signal for the group call and a signal for a radio communication service from the BS.

7. The method of claim 1, wherein in step (e), the MS registers only group call service information about the MS to the BS and receives the group call
15 from the BS, while receiving the signal for the radio communication service from a BS to which the MS has already location-registered.

8. The method of claim 1, further comprising the step of repeating step (d) after receiving the group call paging information from the BS by the MS if the
20 group call service is not available from the BS in step (d).

9. The method of claim 1, if the group call service is not available from the BS in step (d), further comprising the steps of:

(f) analyzing by the MS paging information received from a BS to which the
25 MS has already registered to;

(g) deciding whether the group call paging information from the selected BS has been changed by the MS, if the group call paging information is included in the paging information; and

(h) re-selecting by the MS a BS from which to receive the extended group call
30 service if the group call paging information has been changed and receiving group call

paging information from the re-selected BS .